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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/584,714 | 06/23/2006 | Gunnar Glad | PU03100 | 5090 |
| 22840 7590 11/27/2009 GE HEALTHCARE BIO-SCIENCES CORP. PATENT DEPARTMENT 800 CENTENNIAL AVENUE PISCATAWAY, NJ 08855 | | | | |
| EXAMINER THERKORN, ERNEST G | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 1797 | | | | |
| NOTIFICATION DATE | | DELIVERY MODE | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

melissa.leck@ge.com

Office Action Summary

Application No.

10/584,714

Applicant(s)

GLAD ET AL.

Examiner

Ernest G. Therborn

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 3,6,10,11 and 14-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7-9,12 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5, 7-9, 12, and 13 are rejected under 35 U.S.C. 102(B) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Berglund (U.S. Patent No. 5,090,288). The claims are considered to read on Berglund (U.S. Patent No. 5,090,288). However, if a difference exists between the claims and Berglund (U.S. Patent No. 5,090,288), it would reside in optimizing the elements of Berglund (U.S. Patent No. 5,090,288). It would have been obvious to optimize the elements of Berglund (U.S. Patent No. 5,090,288) to enhance separation.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berglund (U.S. Patent No. 5,090,288) in view of Muller (U.S. Patent No. 5,453,186). At best, the claim differs from Berglund (U.S. Patent No. 5,090,288) in reciting use of a methyl group. Muller (U.S. Patent No. 5,453,186) (column 4, lines 60-61; column 5, lines 4-10 and 47-56) discloses that alkyl sulfonyl, including methyl sulfonyl, bonded to an amine is a preferred ligand. It would have been obvious to use a methyl group in Berglund (U.S. Patent No. 5,090,288) because Muller (U.S. Patent No. 5,453,186) (column 4, lines 60-

61; column 5, lines 4-10 and 47-56) discloses that alkyl sulfonyl, including methyl sulfonyl, bonded to an amine is a preferred ligand.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berglund (U.S. Patent No. 5,090,288) in view of Muller (U.S. Patent No. 5,453,186). At best, the claim differs from Berglund (U.S. Patent No. 5,090,288) in reciting use of repeating units. Muller (U.S. Patent No. 5,453,186) (column 7, lines 46-62) discloses that use of repeating units allows the creation of the optimum separation material and allows for a very much higher binding capacity. It would have been obvious to use repeating units in Berglund (U.S. Patent No. 5,090,288) because Muller (U.S. Patent No. 5,453,186) (column 7, lines 46-62) discloses that use of repeating units allows the creation of the optimum separation material and allows for a very much higher binding capacity.

Claims 1, 2, 4, 5, 7-9, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (U.S. Patent No. 4,725,355) in view of Muller (U.S. Patent No. 5,453,186) and Wikipedia. At best, the claims differ from Yamamoto (U.S. Patent No. 4,725,355) in reciting that an R group from sulphonyl is an aliphatic compound. Muller (U.S. Patent No. 5,453,186) (column 4, lines 60-61; column 5, lines 4-10 and 47-56) discloses that alkyl sulfonyl, including methyl sulfonyl, bonded to an amine is a preferred alternative to aromatic sulphonamides. Wikipedia evidences that sulfonamide and sulfa drug are synonyms. It would have been obvious to use methyl sulfonyl as Yamamoto (U.S. Patent No. 4,725,355)'s column 4, lines 1-13 R² group because Muller (U.S. Patent No. 5,453,186) (column 4, lines 60-61; column 5, lines 4-10 and 47-56) discloses that alkyl sulfonyl, including methyl sulfonyl, bonded to an amine is a preferred

alternative to aromatic sulphonamides and Wikipedia evidences that sulfonamide and sulfa drug are synonyms.

The remarks urge that the claims do not read on Berglund (U.S. Patent No. 5,090,288). However, column 6, lines 14-21, discloses that sulphonamide can be used as a replacement for the ligand arm B of formula I on column 4, lines 4-14 or as a component of aliphatic groups R_{1-13} or R'_{7-11} . Inasmuch as the ligand in formula I on column 4, lines 4-14 is aliphatic, it is clear that the claims read on Berglund (U.S. Patent No. 5,090,288). Alternatively, if the sulphonamide is a component of aliphatic groups R_{1-13} or R'_{7-11} , it is clear that the claims read on Berglund (U.S. Patent No. 5,090,288).

The remarks urge that claim 4 is patentable over Berglund (U.S. Patent No. 5,090,288) in view of Muller (U.S. Patent No. 5,453,186). However, Muller (U.S. Patent No. 5,453,186) (column 4, lines 60-61; column 5, lines 4-10 and 47-56) discloses that alkyl sulfonyl, including methyl sulfonyl, bonded to an amine is a preferred ligand. As such, it would have been obvious to use a methyl group in Berglund (U.S. Patent No. 5,090,288) because Muller (U.S. Patent No. 5,453,186) (column 4, lines 60-61; column 5, lines 4-10 and 47-56) discloses that alkyl sulfonyl, including methyl sulfonyl, bonded to an amine is a preferred ligand.

The remarks urge that Muller (U.S. Patent No. 5,453,186)'s alkyl sulfonamide may be bonded in Muller (U.S. Patent No. 5,453,186) to a carbonyl group. However, this does not negate Muller (U.S. Patent No. 5,453,186) (column 4, lines 60-61; column 5, lines 4-10 and 47-56)'s teaching that alkyl sulfonyl, including methyl sulfonyl, bonded to an amine is a preferred ligand.

The remarks urge that Yamamoto (U.S. Patent No. 4,725,355) does not disclose an R group from sulphonyl that is an aliphatic compound. However, Muller (U.S. Patent No. 5,453,186) (column 4, lines 60-61; column 5, lines 4-10 and 47-56) discloses that alkyl sulfonyl, including methyl sulfonyl, bonded to an amine is a preferred alternative to aromatic sulphonamides. As such, It would have been obvious to use methyl sulfonyl as Yamamoto (U.S. Patent No. 4,725,355)'s column 4, lines 1-13 R² group because Muller (U.S. Patent No. 5,453,186) (column 4, lines 60-61; column 5, lines 4-10 and 47-56) discloses that alkyl sulfonyl, including methyl sulfonyl, bonded to an amine is a preferred alternative to aromatic sulphonamides.

The remarks urge that Wikipedia may not be used as a reference because it may have been published after the filing date. However, Wikipedia is not used to modify Yamamoto (U.S. Patent No. 4,725,355). It is used to provide a definition that the person of ordinary skill would know. It evidences that sulfonamide and sulfa drug are synonyms just like one foot and 12 inches mean the same thing.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to E. Therkorn at telephone number (571) 272-1149. The official fax number is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ernest G. Therkorn/
Ernest G. Therkorn
Primary Examiner
Art Unit 1797

EGT
November 20, 2009